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| APPLICATION NO.   | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO.     | CONFIRMATION NO.       |
|---|-------------|----------------------|-------------------------|------------------------|
| 10/665,778  | 09/19/2003  | Robert J. Nealon     | LUC-422/Nealon 1        | 6391                   |
| 32205 7590 05/09/2007<br>CARMEN B. PATTI & ASSOCIATES, LLC<br>ONE NORTH LASALLE STREET<br>44TH FLOOR<br>CHICAGO, IL 60602 |             |                      | EXAMINER<br>PHAN, MAN U |                        |
|   |             |                      | ART UNIT<br>2616        | PAPER NUMBER           |
|   |             |                      | MAIL DATE<br>05/09/2007 | DELIVERY MODE<br>PAPER |

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

**Office Action Summary**

Application No.

10/665,778

Applicant(s)

NEALON, ROBERT J.

Examiner

Man Phan

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 19 September 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-23 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 6-10 and 16-23 is/are allowed.
- 6) ☒ Claim(s) 1, 4, 5, 11, 14 and 15 is/are rejected.
- 7) ☒ Claim(s) 2, 3, 12 and 13 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 19 September 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

### **DETAILED ACTION**

1. The application of Nealon for an "Integrated broadband and narrowband SS& signaling gateway with M3UA and point code mapping" filed 09/19/2003 has been examined. Claims 1-23 are pending in the application.

2. The applicant should use this period for response to thoroughly and very closely proof read and review the whole of the application for correct correlation between reference numerals in the textual portion of the Specification and Drawings along with any minor spelling errors, general typographical errors, accuracy, assurance of proper use for Trademarks <sup>TM</sup>, and other legal symbols @, where required, and clarity of meaning in the Specification, Drawings, and specifically the claims (i.e., provide proper antecedent basis for "the" and "said" within each claim). Minor typographical errors could render a Patent unenforceable and so the applicant is strongly encouraged to aid in this endeavor.

### ***Claim Objections***

3. Claims 1, 6, 18 are objected to because of the following informalities:

Claim 1, line 6: "the integrated media and gateway" should change to –the integrated media and signaling gateway—.

Claim 6, line 3: "a single media" should change to –a single physical media—.

Claim 18, line 3: "a single media" should change to –a single physical media—.

Appropriate correction is required.

*Claim Rejections - 35 USC ' 103*

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1, 4, 5 and 11, 14, 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Allen Jr. et al. (US#2001/0017861) in view of Benedyk et al. (US#6,990,089).

With respect to claims 1, 4, Allen Jr. et al. (US#2001/0017861) discloses in Fig. 4 a block diagram illustrated ATM-based distributed virtual tandem switching system includes at least one first media gateway of the cluster of media gateways having an integrated broadband SS7 signaling gateway, at least one second media gateway of the cluster of media gateways being without an integrated broadband SS7 signaling gateway (Referring to Figure 4, the centralized control and signaling interworking function, CS-IWF 30, performs call control functions and conversion between narrowband signaling, Signaling System 7 (SS7), protocol, and a broadband signaling protocol for call processing and control within the ATM network, the T-IWF 28 does not provide such signaling. See paragraphs 0045 and 0046;) and using the at least one first media gateway for SS7 signaling and using at least one second gateway for resources other than SS7 signaling (Referring to Figure 4, CS-IWF 30 performs SS7 signaling and the CS-IWF 30 provides protocol conversion to and from TDM/ATM. See paragraphs 0045 and 0046).

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Allen further discloses using a single media gateway with an integrated broadband SS7 signaling gateway as a single SS7 point code for more than one gateway of the cluster of media gateways (Referring to Figure 4, the centralized control and signaling interworking function, CS-IWF 30, performs call control functions and conversion between narrowband signaling, Signaling System 7 (SS7), protocol, and a broadband signaling protocol for call processing and control within the ATM network, comprising a single SS7 point code. See paragraphs 0045, 0046, and 0073.)

Allen does not expressly disclose using a single broadband SS7 signaling gateway for multiple wireless access gateways. However Allen discloses a centralized control and signaling interworking function device, which acts a single broadband SS7 signaling gateway (Referring to Figure 4, see paragraphs 0045 and 0046). In the same field of endeavor, Benedyk teaches a method and system for routing messages in a radio access network, in which a Radio Access Network Gateway provides the signaling for multiple Radio Access Network Controllers (multiple wireless access gateways). Benedyk teaches in Fig. 3 a block diagram of a radio access network including a radio access network gateway, in which radio access network 300 includes a core network 302, one or more radio network controllers 102, and a plurality of node Bs 100. Core network 302 includes network elements for communicating signaling and bearer traffic to and from RNCs 102. Such network elements have conventionally been SS7 and ATM-based network elements. However, as will be explained in more detail, RAN gateway 304 provides functionality that allows core network 302 to implement a universal protocol, such as SCTP/IP or TCP/IP. RNCs 102 control access to radio resources of core network 302. Node Bs 100 are logical nodes responsible for radio transmission and reception in one or more cells to and from

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user equipment, such as mobile handsets. On the RNC side, each node B terminates the interface lub with the RNC. (Col. 2, lines 35 plus and Col. 3, lines 63 plus).

It's noted that communications networks use Media Gateways (MGs) to enable voice and data traffic to traverse through the network. Media Gateways, together with the Signaling Gateways and the Media Gateway Controller, also known as a softswitch, comprise the distributed IP telephony network components that provide functionality analogous to the switching equipment within the PSTN. Media Gateways act as translation units to enable communication between disparate networks. Mobile access Media Gateways enable wireless terminals to connect to packet based wireless networks. A media gateway can also connect the public switched telephone network (PSTN) to asynchronous transfer mode (ATM) networks, the PSTN to IP networks, ATM networks to Internet protocol (IP) networks, or even IP networks to IP networks when different protocols or coders are being used. Softswitch has been used in different ways in the literature. Herein, SoftSwitch is defined as a logical entity that implements a call controller, signaling server, signaling gateway, and media gateway controller. Together with the set of media switches under its control, the SS provides the service of call setup and switching of the bearer traffic similar to conventional switches.

Regarding claim 5, an approach to providing a reliable connection between IP and SS7 networks has been proposed by the Internet Engineering Task Force (IETF). This includes MTP level 3 user adaptation (M3UA) for replacing MTP (as disclosed in IETF draft "SS7 MTP3-User Adaptation Layer"; February 2002; <http://www.ietf.org/internet-drafts/draft-ietf-sigtran-m3ua-12.txt>), which is a protocol for the transport of any MTP3 signalling over IP, and SUA which defines the protocol for the transport of any SCCP User Part signalling over IP. Two main

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entities are defined: the signalling gateway (SG), which is the connection point between the SS7 and IP networks, and the application server (AS), which is the software application provided on the IP network which it is desired to make available over the SS7 network. The protocols may be used to connect SS7-based signalling end points (SEP) with an IP based AS thus allowing SS7 networks to access IP based applications. It is known that a signaling gateway allows the transfer of CCS7 (Common Channel Signaling System 7) signaling from a CCS7 network with CCS7 connections to another network, in particular an IP network. An M3UA (MTP Level 3 User Adaptation) protocol is provided for this transfer.

Regarding claims 11, 14, 15, they are method claims corresponding to the apparatus claims above. Therefore, claims 11, 14, 15 are analyzed and rejected as previously discussed with respect to the claims above.

One skilled in the art would have recognized the need for efficiently integrates the media gateway function and signaling gateway function into one single component, and would have applied Benedyk's novel use of the routing messages between a core network and a RNC into Allen's teaching of the tandem switching systems for use within a public switched telephone network (PSTN). Therefore, It would have been obvious to a person of ordinary skill in the art at the time of the invention was made to apply Benedyk's methods and systems for routing messages in a radio access network into Allen's ATM-based distributed virtual tandem switching system with the motivation being to provide a method and system for n integrated broadband and narrowband SS7 signaling gateway with M3UA and point code mapping.

*Allowable Subject Matter*

6. Claims 6-10, 16-23 are allowable

7. Claims 2-3, 12-13 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

8. The following is an examiner's statement of reasons for the indication of allowable subject matter: The closest prior art of record fails to disclose or suggest wherein the system further comprises at least one call controller operatively connected to the integrated media and signaling gateway, and a point code cloning scheme for transparently forwarding a signaling message, which is received on the signaling link, to the at least one call controller; A system for terminating bearer paths and signaling links with a common integrated media and signaling gateway, comprising: a single media carrying at least one bearer path in a bearer logical channel and at least one signaling link in a signaling logical channel; an integrated media and signaling gateway having a bearer processing unit that is a termination for the bearer logical channel and a signal processing unit that is a termination for the signaling logical channel; a network operatively connected to the bearer processing unit, the network having network elements; the network elements having respectively assigned thereto point codes according to a point code cloning scheme; and at least one call controller operatively connected to the signal processing



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unit, the call controller having assigned thereto a point code according to the point code cloning scheme, as specifically recited in claims.

9. Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

### *Conclusion*

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

The Vo et al. (US#6,795,444) is cited to show a system and method for providing wireless telephony over a packet switched network.

The Craig (US#7,197,036) show methods and systems for routing messages between a mated pair of routing nodes with a distributed processing architecture and one or more redundantly connected remote applications.

The Picha (US#2004/0240456) show a structured termination identification for ephemeral terminations.

The Breuckheimer et al. (US#6,496,508) show a communication system architecture and method of establishing a communication connection therein.

The Stumpert et al. (US#6,952,433) show a method for increasing the flexibility of a communication network with separated call control and bearer control.

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The Karaul et al. (US#7,085,260) show an IP based wireless call processing.

The Menon et al. (US#2002/0048268) shows a wireless local loop system supporting voice/IP.

The Ryu et al. (US#2003/0231623) shows a routing system in the next generation open network and method of controlling the routing system.

The Miller et al. (US#7,139,263) is cited to show Voice over IP architecture.

The Lin et al. (US#2004/0233896) is cited to show the signal relay device, method thereof, and system using the same.

The Angermayr et al. (US#2004/0068534) shows the system for transmitting signaling between different networks.

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to M. Phan whose telephone number is (571) 272-3149. The examiner can normally be reached on Mon - Fri from 6:00 to 3:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wellington Chin, can be reached on (571) 272-3134. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (571) 272-2600.

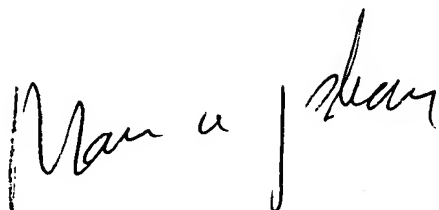
12. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published

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applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have any questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at toll free 1-866-217-9197.

Mphan

05/08/2007.

A handwritten signature in black ink, appearing to read "Man u J Phan", written in a cursive style.

MAN U. PHAN  
PRIMARY EXAMINER